

HESPERIIDAE AS PREY OF *STICTIA CAROLINA*¹

A. Hook

Abstract.—Many dipterous prey records exist for *Stictia carolina* (F.). Only one study reports the use of hesperiids and cicadas in addition to flies as prey items. The present study confirms the use of hesperiids as prey of *S. carolina*; of 9 unicellular nests examined, 4 contained hesperiids in addition to dipterous prey.

Abundant prey records exist for *Stictia carolina* (F.), all but one reporting Diptera, especially Tabanidae. Only Lin (1971) has noted the use of hesperiids (*Atalopedes campestris* Boisduval) and small cicadas, in addition to Diptera, as prey of *S. carolina* (studied in Oklahoma).

This paper confirms the use of HesperIIDae as prey of *S. carolina*. Field research was conducted during Aug 1979, on state forest land, situated 300 m west of Turkey Swamp State Park, Freehold, NJ. Two nesting aggregations, each with 20 to 40 females, were located in small, sandy clearings. Surrounding habitat consisted of a mixed deciduous and evergreen forest (pine barrens type flora).

Females had begun to nest and males were still active when these sites were 1st located on 9 August. Five unicellular nests were excavated on 16 Aug and were found to contain dipterous prey, but 2 cells also had hesperiid wings. Four additional nests excavated on 24 Aug revealed 2 cells bearing skippers and flies. One skipper was determined as *Epargyreus clarus* (Cramer). In 9 nests, 100% contained Diptera while 44% also had hesperiids (1 or 2 skippers per cell).

In the Bembicini, 6 genera are known to prey on HesperIIDae: *Rubrica*, *Stictia*, *Editha*, *Bembix*, *Zyzyx* and *Stictiella* (Evans 1966; Evans et al. 1974; Bohart and Menke 1976). Only in the case of some *Stictiella* do HesperIIDae provide a major source of prey. Lin (1971) suggested that shortage of dipterous prey had led *S. carolina* to select skippers and cicadas in addition to Diptera. Further comparative as well as experimental studies are needed to clarify prey selection in this group.

Literature Cited

- Bohart, R. M. and A. S. Menke. 1976. Sphecoid Wasps of the World: a Generic Revision. Univ. Calif. Press, Berkeley. 695 pp.
Evans, H. E. 1966. The Comparative Ethology and Evolution of the Sand Wasps. Harvard Univ. Press, Cambridge, Mass. 526 pp.

- , R. W. Matthews and E. McC. Callan. 1974. Observations on the nesting behavior of *Rubrica surinamensis* (DeGeer) (Hymenoptera: Sphecidae). *Psyche* 81:334-352.
- Lin, C. S. 1971. Bionomics of *Stictia carolina* at Lake Texoma, with notes on some Neotropical species (Hymenoptera:Sphecidae). *Tex. J. Sci.* 23:275-286.

Department of Zoology and Entomology, Colorado State University, Ft. Collins, Colorado 80523.

Received for publication February 20, 1981.

¹ This research was supported by a National Science Foundation Grant (BNS 79-26655) awarded to H. E. Evans, and by a Sigma Xi R.E.S.A. Grant-in-Aid of Research.